
**Report to
The Vermont Legislature**

**Childhood Lead Poisoning Prevention
Annual Report 2013**

In Accordance with 18 V.S.A. § 1755(b) and § 1756(b)

Submitted to: General Assembly

Submitted by: Harry Chen, MD
Commissioner

Prepared by: Lori Cragin, Ph.D.
Director, Division of Environmental Health

Report Date: April 15, 2014



108 Cherry Street
PO Box 70
Burlington, VT 05402
healthvermont.gov

Table of Contents

Introduction	3
Measuring Progress	4
Barriers to Universal Screening	6
Education and Outreach Activities	6
Future of Vermont's Lead Program & Recommendations	8
Estimates of Public and Private Costs	9
Conclusion	11

Childhood Lead Poisoning Prevention
Annual Report 2013
18 V.S.A. § 1755(b) and § 1756(b)
April 15, 2014

Introduction

The Vermont Department of Health is pleased to submit this progress report on the status of childhood lead poisoning prevention efforts in 2013 pursuant to 18 VSA §§ 1755 and 1756. This annual report documents the Health Department's efforts over the past year to prevent lead poisoning in young children. It presents the latest data on the number and percentage of Vermont children less than 6 years old who have been tested for lead, with a special focus on 1- and 2-year-old children. Historical data on screening are also presented. In addition, the report describes 2013 outreach and education activities intended to improve screening rates and provides estimates of the annual public and private costs incurred in 2013 to prevent lead poisoning.

Over the last ten years, the percentage of young children who have been screened for lead poisoning has increased, and the percentage of children with elevated blood lead levels has decreased. In 2007, the Commissioner of Health established 5 micrograms per deciliter (5µg/dL) as the blood lead level of concern for alerting parents and guardians that their children may have been exposed to lead. Then in 2008, Vermont became the first state to pass legislation that defined 5µg/dL as an elevated blood lead level. In 2012, the Centers for Disease Control's Advisory Committee on Childhood Lead Poisoning published a report which declared that no blood level of lead is safe and has stopped using terms such as "level of concern" and "action level." Instead, CDC calculated a reference value, based on the 97.5 percentile of the blood lead level distribution among children age 1 to 5 in the United States. The current reference value aligns with Vermont's definition of an elevated blood lead level at 5µg/dL.

In September 2012, federal funds from CDC were cut nationwide for lead poisoning prevention programs. For some states, funding from CDC ended completely as of September, while Vermont and some other states were able to receive grant funds until May 2013. The Health

Department has demonstrated a strong commitment to the prevention of lead poisoning and is continuing to support the program. The Childhood Lead Poisoning Prevention Program has transitioned to a program now called the Healthy Homes Lead Poisoning Prevention Program. Rather than having a singular approach to home health hazards, the program has expanded to address related health problems that are potentially caused or increased by home environmental factors.

Measuring Progress

Testing young children for lead in blood is a critical step in the process of reducing the incidence of elevated blood lead levels. A child's exposure to lead can easily be identified through testing and appropriate interventions can be initiated to prevent further exposure to this harmful toxin. In addition, testing helps inform the development of lead poisoning prevention policies by giving the Department of Health the opportunity to track statewide trends in childhood exposure to lead.

The Healthy Homes Lead Poisoning Prevention Program continues to work toward the goal of universal testing of 1- and 2-year-old children in Vermont. Table 1 presents 2013 data on the number of young children who were tested for blood lead levels and the results of those screenings.

Table 1

Blood Lead Tests and Results for Vermont Children ages 0-<6 years, 2013*

Age	Population	# of Tests	% Tested	# <5 µg/dL	% < 5 µg/dL	# 5-9 µg/dL	% 5-9 µg/dL	# ≥10 µg/dL	% ≥10 µg/dL
Under 1	5,895	355	6.0%	328	92.4%	21	5.9%	6	1.7%
1	6,088	4886	80.3%	4486	91.8%	352	7.2%	48	1.0%
2	6,217	4296	69.1%	3985	92.8%	275	6.4%	36	0.8%
3	6,449	399	6.2%	341	85.5%	48	12.0%	10	2.5%
4	6,566	203	3.1%	173	85.2%	26	12.8%	*	*
5	6,681	106	1.6%	88	83.0%	17	16.0%	*	*

*Indicates fewer than 6 cases in a category that year; when counts and percentages are based on only a few cases, it is impossible to distinguish random fluctuation from true changes in data. Small numbers are also suppressed to prevent identification of individuals.

Ages: < 1 year: <11 months, 1 year: 11-22.99 months, 2 years: 23-34.99 months, 3 years: 35-46.99 months, 4 years: 47-58.99 months, 5 years: 59-70.99 months. **Population:** The average of census estimates or counts from the 3 previous years (2010, 2011, 2012). Data include one blood lead test per child by age; the highest venous test result or if there is no venous test, then the capillary test result. This may result in a child having two tests per calendar year. For example, a child may be born in December 2011, have their one-year old test in January 2012, and then have their two-year old test in December 2012.

Figure 1

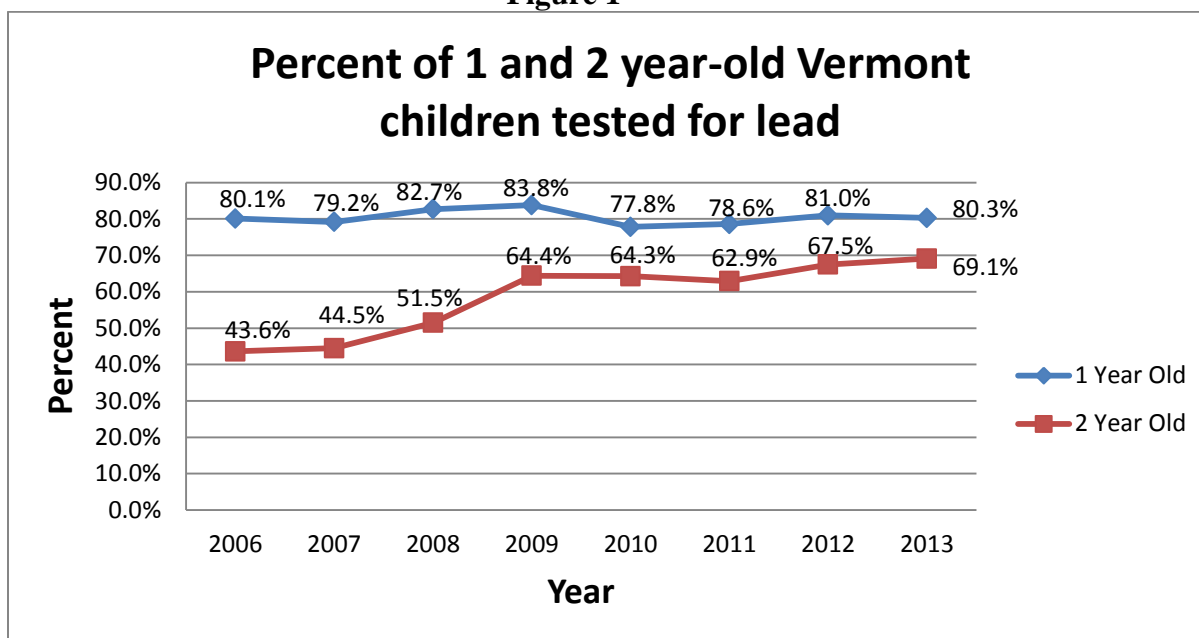


Figure 1 shows the percent of 1-year olds and the percent of 2-year olds tested each year from 2006 through 2013. For 1-year olds, the trend has held steady at about 80% for the time period. For 2-year olds, the trend jumped more than 20% between 2006 and 2009 from 43.6% to 64.4% and overall has steadily increased.

Figure 2

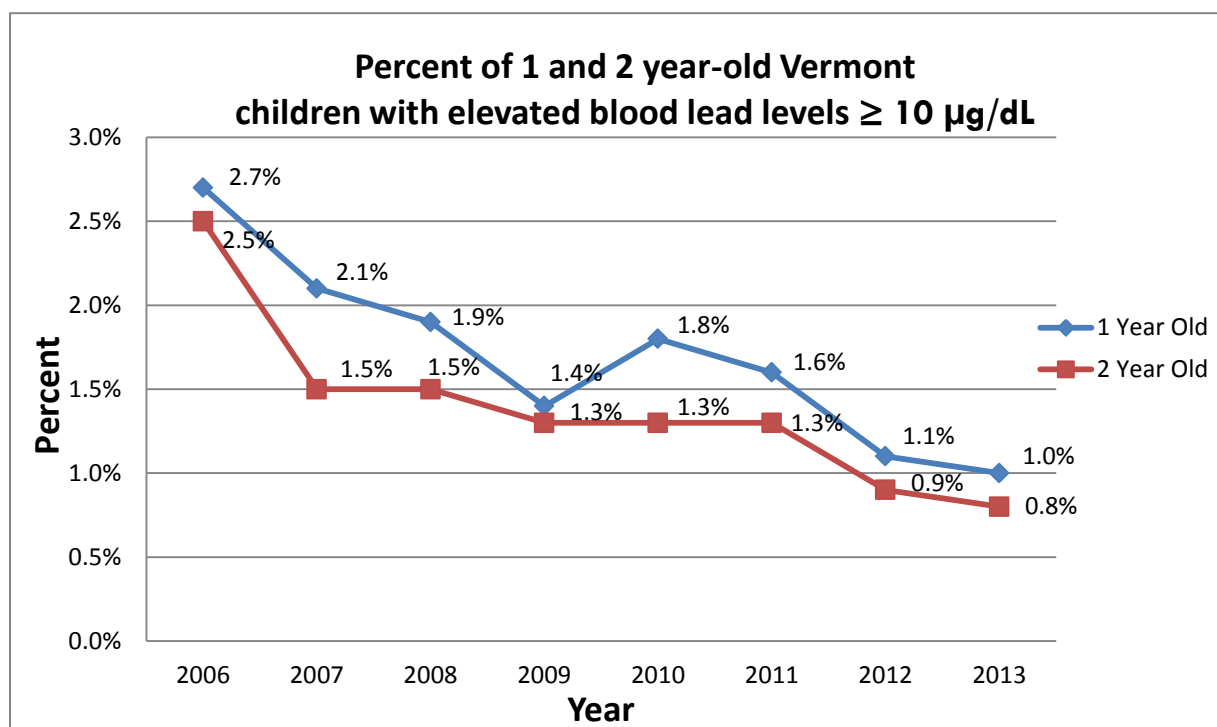


Figure 2 shows the percent of Vermont 1- and 2-year olds tested whose lead levels were greater than or equal to 10 micrograms per deciliter during the period from 2006 through 2013. These data indicate a continued lowering of high blood lead levels among young Vermont children.

Barriers to Universal Screening

A number of barriers to the testing requirements have been identified and continue to persist. When surveyed, providers have indicated that difficulty obtaining blood samples from infants and young children poses a barrier to testing. Providers have also voiced concerns about inadequate cost reimbursement for lead screening and a lack of insurance coverage for the procedure. There have also been some misconceptions about who is at risk for lead poisoning and who is not at risk. Finally, parental reluctance to testing poses another barrier to universal testing. Lead screening of 1- and 2-year olds is a nationally recognized standard of pediatric care, and Vermont's universal testing requirement is consistent with this standard. The Department of Health's efforts to educate providers and parents about the health risks of lead are discussed below.

2013 Education and Outreach Activities

The Vermont Department of Health conducts a variety of lead education and outreach activities targeted to multiple audiences and designed to prevent lead poisoning, encourage lead screening of 1- and 2-year-old children and support case management for children with elevated blood lead levels.

Programmatic Activities

- The Healthy Homes Lead Poisoning Prevention Program completed the “Public Health Stat” process in 2013. This is a process that assists programs in data-driven decision making. It is where cross-divisional key decision-makers come together to do program planning and resource allocation around high priority Department-wide goals. As part of this process, many quality improvement projects were completed in 2013 and have advanced the work done by the Healthy Homes Lead Poisoning Prevention Program.

- Along with the new CDC reference value, the Centers for Disease Control's Advisory Committee on Childhood Lead Poisoning report included new guidelines regarding the confirmation and re-testing of blood lead levels. In one major project that involved changing protocols and education materials, these new guidelines were adopted. In March 2014, Vermont providers were notified of these changes.
- The program worked with external and internal partners on ongoing outreach efforts. In one effort, the Healthy Homes Lead Poisoning Prevention Program joined a collaborative push with many community partners to develop and promote a better referral process across the state's lead, weatherization, energy efficiency, asthma, and injury programs. This referral process improves the connections between families and community resources.

Targeted Education

- All children with a confirmed blood lead level of 10 µg/dL or greater are visited by the Healthy Homes Lead Poisoning Prevention case manager. In 2013, the case manager visited the homes of 33 previously unvisited children, and conducted 105 follow-up visits on existing cases. In addition to investigating the home for lead hazards, the case manager also looks for asthma triggers and safety and poisoning dangers.
- Postcards reminding parents and guardians to have their children tested for lead are sent to families of 10-month-old children (5,238 postcards in 2013) and 22-month-old children (5,250 postcards in 2013) who were born in Vermont.
- Educational materials and testing recommendations are sent to parents whose child has a blood lead level in the range from 5 µg/dL through 9 µg/dL (664 packets in 2013). The materials include a request form for a free dust wipe kit that enables families to send floor and windowsill dust samples to a laboratory to test for lead. Lab results are sent directly back to the families accompanied by appropriate lead literature.
- An ongoing separate dust wipe kit project that functions as an identification tool is used by district offices, some Head Start home visitors, and an external partner, Lead Safe and Healthy Homes in Bellows Falls. By identifying lead in dust before a child is crawling or walking, families can take steps to remove or minimize exposure to lead dust hazards.

Screening Outreach

- In collaboration with Dr. Wendy Davis, a pediatrician and a leader in the provider community, the importance of lead testing was presented to Springfield, Fletcher Allen, Porter, Copley, Central Vermont, and Plattsburgh Hospitals.
- VDH continues to work with the Vermont Chapters of the American Academy of Pediatrics under a grant to provide the purchase of in-office lead testing machines known as *Lead Care II* for selected pediatric and family practices. The grant supports not only the purchase of the machines but also funds peer-to-peer education with the goal of further reducing known barriers to blood lead screening.
- Department of Health district office programs encourage parents to make sure their children are tested. At appropriate WIC appointments, WIC staff distribute lead fact sheets and remind parents to have children tested at the 12-month and 24-month well child visits with their health care provider. As a back-up measure, children in WIC who were not tested by their providers at 12- and 24-months may be tested by district office staff at their 18-and/or 30-month WIC appointments.
- The Early and Periodic Screening, Diagnosis and Treatment (EPSDT) program routinely sends letters advising parents that age-appropriate screening tests are recommended and covered by Medicaid. Lead screening tests are listed in this EPSDT information sent to parents.

Future of Vermont's Lead Program and Recommendations

In the upcoming year, the Health Department will continue to work on the following initiatives to prevent lead poisoning by making homes safer for children and increase blood lead testing for 1- and 2-year olds. This will be accomplished by educating parents, giving technical assistance to providers, and enforcing the lead testing rules. In addition, the following activities will be performed:

- Continue the activities listed above in the Education and Activities section:
 - Offer dust wipe kits
 - Provide outreach to families with children who have who tested between 5-9 $\mu\text{g}/\text{dL}$
 - Conduct environmental investigations and case management of children with a blood lead level at or above 10 $\mu\text{g}/\text{dL}$
 - Send reminder postcards with lead testing information to all families of children ages 10- and 22-months who were born in Vermont.
- Use the web-based immunization registry to help identify medical providers who have not been testing 1- and 2-year olds. This immunization registry records a child's lead tests and will allow the program to identify and assist medical practices who have low testing rates.
- Collaborate with District Offices to identify and provide outreach to medical providers who have not been testing 1- and 2-year olds.
- Seek additional funding opportunities for lead poisoning prevention programs.
- Maintain and create partnerships with internal and external partners, such as:
 - Vermont Housing and Conservation Board
 - Children's Integrated Services
 - Burlington Lead Program
 - Lead Safe and Healthy Homes in Bellows Falls
 - Head Start
- Work with Town Health Officers regarding their role in identifying lead hazards in their communities.

Estimates of Public and Private Costs

Private Costs

It is extremely difficult to estimate the costs incurred since 1993 by the public and the private sector to prevent lead poisoning. The following algorithm is used to estimate the costs incurred by landlords to ensure their rental properties comply with Essential Maintenance Practices (EMP).

- Among the 4,240 rental properties and child care centers for which EMP affidavits were filed in 2013, 25% of these properties were in good condition, 50% were in fair condition, and 25% were in poor condition. Properties in good condition require an estimated \$200 in annual maintenance costs to comply with EMP requirements; properties in fair condition likely require \$340 in annual maintenance costs; and properties in poor condition entail approximately \$520 in annual maintenance costs. This results in an estimated cost of: \$1,484,000.
- A total of 406 properties filed a compliance statement for the first time in 2013. First-time filing of a compliance statement likely incurs start-up costs to bring a property into compliance (e.g., installing window well inserts and buying a HEPA vacuum). The algorithm assumes an average of \$625 for each new property being brought into compliance. Additional start-up costs for new properties being brought into compliance is \$253,750.
- Therefore, a conservative estimate for the total cost to landlords for all properties that complied with the Lead Law in 2013 is \$1,737,750.

Public Costs

In the public sector, the Healthy Homes Lead Poisoning Prevention Program expended about \$365,000 in 2013. The Vermont Housing and Conservation Board expended about \$1,000,000 from the Department of Housing and Urban Development (HUD) in 2013, and the Burlington Lead Program expended about \$378,632. Therefore, from these organizations, roughly \$1,378,997 in federal funds was spent on reducing lead poisoning in 2013.

In addition, a study completed by Dartmouth College as part of the *Get the Lead Out of Vermont* Task Force Report in 2006 estimated direct health care costs of all children with elevated blood lead levels at \$51,814 per year, and special education costs at \$219,841 a year (considered to be an underestimate because special education costs were calculated only for those children with blood lead levels 25 µg/dL or greater). The Dartmouth report also estimated more than \$79 million per year in lost future earnings of children whose blood lead levels are 5 µg/dL or greater. Screening costs incurred by families, insurers and providers are not represented in these cost estimates.

Conclusion

Lead poisoning is still a serious problem in Vermont. In 2013 there were more than 800 children in Vermont that had a blood lead level at or above 5 µg/dL. Through the years, however, remarkable progress has resulted in limiting the exposure to lead, heightening both public and health care provider education and reducing hazards in the home. No services to families have been discontinued and the program has expanded its mission to include healthy homes (asthma triggers and safety and poisoning dangers). While lead poisoning is still a problem, the Department of Health, along with external and internal partners, continues its strong commitment to protecting children from the harmful effects of lead.